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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/739,088

12/19/2003

Tomoyuki Nakamura

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9933

(515-0658/MG)

7590

06/29/2004

EXAMINER

HA, NGUYEN T

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ART UNIT

PAPER NUMBER

2831

DATE MAILED: 06/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Applicati n N .	Applicant(s)	
	10/739,088	NAKAMURA ET AL.	
	Examiner	Art Unit	
	Nguyen T Ha	2831	

-- The MAILING DATE of this c mmunication appears on the cover sheet with the c rrespondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-8 and 12-20 is/are allowed.
- 6) ☒ Claim(s) 9-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1203</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

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## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 9 is objected to because of the following informalities: Claim 9, line 5, "acalcined material" should be changed to - - a calcined material - -.  
Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuno et al. (US 6,522,521) in view of Yoshikawa et al. (US- 2003/0012727).

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Regarding to claim 9, the making of Mizuno et al's dielectric ceramic compact includes a method of producing<sup>a</sup> dielectric ceramic comprising:

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- providing a mixture of a) a perovskite compound having the general formula  $ABO_3$ , in which A represents Ba and Ca, or Ba, Ca and Sr, and B represents Ti, or Ti (column 23, lines 30-32) and at least one of Zr and Hf.
- b) a calcined material contain R is a compound containing at least one of La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb and Lu, and M is at least one of Mn, Ni, Fe, Mg, Al, Cr, and Zn, and firing the mixture of the perovskite compound and the calcined material (column 23, lines 48-53).

**Mizuno et al. lack:** the perovskite compound having a crystallographic axial ratio  $c/a$  of at least about 1.009.

Yoshikawa et al. teach a Barium Titanate powder having a perovskite compound having a crystallographic axial ratio  $c/a$  of at least about 1.009 (page 3, table 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the Yoshikawa Barium Titanate powder into Mizuno in order to provide high conductivity and capacitance for the capacitor.

***Allowable Subject Matter***

4. Claims 1-8 and 12-20 are allowed.

The following is an examiner's statement of reasons for allowance:

With respect to claims 1-8 and 12-20, the prior art alone or in combination does not teach the limitation of a dielectric ceramic having crystal grain and

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crystal grain boundaries between the crystal grain comprising: an additive component is not solid-dissolved and wherein the major component exists in at least about 90% of the cross section of at least about 85% by number of all of the crystal grains, and wherein at least Ba, Ca, Ti, Si, R and the M are found at about 85% or more of the analytical points in the crystal grain boundaries.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Claims 10-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With respect to claims 10-11, the prior art alone or in combination does not teach the limitation of the mole ratio Ca/Ti of the perovskite compound being smaller than the mole ratio Ca/Ti in the calcined material.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen T Ha whose telephone number is 571-272-1974. The examiner can normally be reached on Monday-Friday from 8:30AM to 6:00PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-2800 ext. 31.

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The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Nguyen T. Ha**  
**June 20, 2004**

 6/25/04  
DEAN A. REICHARD  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800